StruxureWare Data Center Expert 7.2.1 Release Notes

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Part Numbers Affected

AP9465
AP9470
AP9475
AP94VMTRL

Minimum System Requirements

The StruxureWare Data Center Expert console is a stand-alone Java application that runs on systems that meet the following requirements:

- A PC with a 1-GHz or better AMD/Intel processor running Microsoft® Windows® 2003 Server (SP2), Microsoft Windows XP (SP1,SP2 or SP3), Windows Vista, or Windows 7, Red Hat® Enterprise Linux® version 5.0
- At least 1 GB of RAM
- Screen resolution should be set to at least 1024 x 768.
- Supported browsers: Microsoft Internet Explorer® 8, 9,10; Mozilla® Firefox® 17.0; Google Chrome™ 23.0

New Features

The 7.2.1 release supports an upcoming hardware revision for StruxureWare Data Center Expert Enterprise servers to the Dell™ PowerEdge™ R720.

StruxureWare Data Center Expert Enterprise server running on the Dell PowerEdge R720 requires a minimum of v7.2.1. Users can apply a v7.2.0 backup to restore server data to v7.2.1 if necessary.

There are no new features available in the 7.2.1 release of StruxureWare Data Center Expert.

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StruxureWare Data Center Expert 7.2.0 New Features

The following features are available in the 7.2.0 release of StruxureWare Data Center Expert:

- **StruxureWare Data Center Expert Product Name**
  StruxureWare Central is now called StruxureWare Data Center Expert.
- **Device Discovery by Device Administrator Users**
  Device Administrator users now have the ability to discover devices into device groups to which they have access.

- **Device Discovery into a Device Group**
  In the Device Discovery wizard, an additional display is now available to select one device group into which to place discovered SNMPv1, SNMPv3, NetBotz Appliance, or Modbus devices. Server Administrator users can place devices into any device group. Device Administrator users can place devices into only the device groups to which they have access.

- **Enhanced Rack Access PX Support**
  Rack access PX handle locks can now be controlled from the StruxureWare Data Center Expert client via SNMP.

- **StruxureWare Data Center Expert Web Client Enhancements**
  The StruxureWare Data Center Expert server home page has been replaced by the StruxureWare Data Center Expert Server web client, available on a computer, tablet, or mobile device with an internet browser, in English only. The web client now allows you to do the following:
  - Download the full StruxureWare Data Center Expert client, and view status and logs.
  - Create customized pages and add gadgets in the desktop version to display the StruxureWare Data Center Expert server data you want to see at-a-glance using the desktop, tablet, or mobile versions.
  - View saved graph-format reports generated on the StruxureWare Data Center Expert server that contain 25 numeric sensors or less and no more than 2 axes.
  - View a log of StruxureWare Data Center Expert system events, user-initiated control and configuration events, and user authentication events, including failed login attempts.
  - Search for active alarms, sensors, devices, and device groups for the StruxureWare Data Center Expert server based on text you type, or using query syntax to filter results by category or attribute.

- **StruxureWare Data Center Operation Suite on a Separate Server**
  The StruxureWare Data Center Operation Suite no longer resides on the StruxureWare Data Center Expert server. To upgrade from a previous version of StruxureWare Operations running on a StruxureWare Central 7.0 server, you must first back up the StruxureWare Central 7.0 server. You then install the separate StruxureWare Data Center Operation server and clients, and migrate the data from the StruxureWare Central 7.0 backup to the StruxureWare Data Center Operation server. For more information, please see the documentation for StruxureWare Data Center Operation.

Issues Fixed

The following are issues fixed in StruxureWare Data Center Expert v7.2.0:

- Users who inherit access from an LDAP group added to StruxureWare Data Center Expert can now comment and acknowledge alarms.
- VA per phase calculations for MGE UPSs are now accurate.
- Web services now correctly reports power module sensors for the modular PDU.
- Apparent power sensors for input phase and input total are now included for the following 3-phase UPS device families: Symmetra; Symmetra PX; Symmetra PX2; DP300E; and Gutor.

Known Issues

- **StruxureWare Data Center Expert Web Client Search Feature Supports English Only**
  The search feature in the StruxureWare Data Center Expert web client supports English only. Accented letters and characters that do not appear in English are not returned in the search results.

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- **StruxureWare Data Center Expert Web Client Search Parameters Require Quotes for Special Characters**
  Search strings containing special characters must be surrounded by double quotes to return results. For example, to search for a device by MAC address, the user must type "XX:XX:XX:XX:XX:XX".
  Note: As the user types a MAC address in the search field, the search bar displays a suggestion without quotes. Using this search suggestion will return no results.

- **StruxureWare Data Center Expert Web Client Customized Pages Unresponsive on Older Browsers**
  Due to performance considerations, certain browsers may not display all the gadgets on a customized page in the StruxureWare Data Center Expert web client. Upgrading your browser to the latest version is recommended. If you use Internet Explorer, and cannot upgrade to a later version, consider using Google Chrome Frame to enable open web technologies.

- **StruxureWare Data Center Expert Web Client Graphs Require Support for Scalable Vector Graphics (SVG)**
  The StruxureWare Data Center Expert web client displays graphs only on browsers that support Scalable Vector Graphics (SVG).

- **Firefox Displays StruxureWare Data Center Expert Web Client Mobile Version on an Android Tablet**
  When the StruxureWare Data Center Expert web client is accessed in Firefox on an Android tablet, the mobile version is displayed. To view the tablet version, users can change the URL from *<servername>/mobile* to *<servername>/tablet*.

- **Limitation on Number of Virtual Sensors**
  The number of virtual sensors created can affect server performance. The recommended number of virtual sensors for a StruxureWare Data Center Expert server to monitor is:
  - Basic server: A maximum of 300 virtual sensors
  - Standard server: A maximum of 600 virtual sensors
  - Enterprise server: A maximum of 4000 virtual sensors

- **Default Device Node Count Displayed for StruxureWare Data Center Expert Virtual Appliance Demo Version**
  The StruxureWare Data Center Expert 7.2.x virtual appliance demo version supports up to 5 device nodes and one camera enabled for surveillance. To monitor 25 device nodes, displayed by default in the "License Keys" display, you must apply the virtual appliance activation license.

- **Restore Fails When Capacity Manager 6.2 is Enabled and Capacity Tags are Configured**
  When users perform a restore from a backup of an InfraStruxure Central 6.2, StruxureWare Central 6.3, or StruxureWare Central 7.0 server with Capacity Manager 6.2 enabled, the restore fails if capacity tags are configured. When the restore is performed on a server with the Operations key installed, the error is seen immediately. When the restore is performed on a new hardware server or virtual appliance, the server fails to boot once the Operations key is installed. Users must contact Technical Support to resolve this issue.

- **Units in Graphs Included in Alarm Notifications are Displayed in English**
  When an email, HTTP POST, or FTP alarm notification includes a graph, the units are displayed in English. The body of the email and the sensor data are displayed in the language for the locale specified in the alarm action.

- **Limitations on Requests for Data Using Web Services**
  Data requests via Web Services exceeding 3.5MB return no data.

- **StruxureWare Data Center Expert Server Reboots While Using the InfraStruxure Manager Migration Utility**
  The StruxureWare Data Center Expert server will reboot while migrating settings and data from InfraStruxure Manager v4.7 to the StruxureWare Data Center Expert server when the InfraStruxure Manager data log is included in the migration, or the time settings on the StruxureWare Data Center Expert server change because of the migration.

- **Subsequent Outlet Control Commands May Fail**
  When the user performs an outlet control command, then immediately follows it with a second command, the second command may fail. The user must wait 5 – 10 seconds to issue a subsequent outlet control command. Users can verify the command was successful in the web interface of the device.

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- **Limitation on Global Device Scan Intervals**
  Users cannot set their global device scan settings to less than five minutes if there are more than 2026 devices discovered on their StruxureWare Data Center Expert Enterprise server. This restriction is not enforced on device-specific scan settings, but APC recommends that the same policy be applied to these settings.
  For servers monitoring fewer than 2025 devices, it is recommended that the default 5-minute scanning rate be used for SNMP devices, and only adjusted for small subsets of critical devices.

- **Limitation on Surveillance Settings for Cameras**
  The number of cameras monitored by the StruxureWare Data Center Expert server, and the Camera Resolution and Target Image Capture Rate (frames per second) settings at each camera, can affect server performance. To support a large volume of surveillance data, the recommended camera settings and number of cameras for a StruxureWare Data Center Expert server to monitor, are:
  - Basic server: A maximum of 15 cameras at 10 frames per second, 150 fps total, and a resolution of 640x480
  - Standard server: A maximum of 125 cameras at 2 frames per second, 250 fps total, and a resolution of 640x480
  - Enterprise server: A maximum of 250 cameras at 2 frames per second, 500 fps total, and a resolution of 640x480.

Upgrade Procedure

The following steps are necessary to upgrade StruxureWare Central 7.2.0 to StruxureWare Data Center Expert 7.2.1.

Note 1: You must have a valid software support contract in order to receive the StruxureWare Data Center Expert 7.2.1 upgrade. If you do not, then you will need to purchase one in order to receive the upgrade.

Note 2: StruxureWare Central must be at a minimum of version 7.2.0 in order to upgrade to StruxureWare Data Center Expert 7.2.1. If you are downloading StruxureWare Data Center Expert 7.2.1, you will need access to the Internet.
Warning: Before beginning an upgrade, remember to run a full backup on your StruxureWare Central by going to System>>Server Administration Settings >>Server Backup/Restore, create a backup entry and then hit Start.

1. Download the upgrade.zip file, or contact Technical Support at 877-908-2688 for assistance.

   Note: The restore.iso file may be needed for later use if a re-installation is required. See Restoring using ISO Format for instructions for restoring your data from a restore.iso file from the ISO format.

2. Extract/expand the upgrade zip file into a separate directory on the hard drive of the system that will be running the StruxureWare Data Center Expert Console.

3. Login to your StruxureWare Central 7.2.0 server with full server access. Now select **Updates** from the menu bar then **Apply Server Update**.

4. Click **Import** and look into the subdirectory where extracted files are placed. The structure of the extracted fields should contain two folders, "BW" and "NBCCore", and an index file, "nbcpkg.lst".

5. Select the "nbcpkg.lst" file and click "Open".

6. The Upgrade/New Packages table will update indicating that there is an update available for the StruxureWare Central server. Check the "Install/Upgrade" option for the package(s) you wish to upgrade. Click the **Install Selected** button to start the upgrade for the selected package(s). You will be prompted to confirm if you would like to proceed with the upgrade. Click **Install Update** to start the upgrade process.

   Warning: The upgrade procedure may take between 15 and 45 minutes depending on the amount of sensor data and events that are stored on the server. Do not manually reboot the server during the upgrade process.

7. When the file transfer completes, StruxureWare Central will restart and disconnect your console connection. You can point a web browser to the StruxureWare Central server for status.

8. When the update is complete, point a web browser to the StruxureWare Data Center Expert server, and select **Install StruxureWare Data Center Expert Client.**

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Restoring using ISO Format (StruxureWare Data Center Expert hardware server only)

Warning: Only perform the steps in this section if directed to do so by a Technical Support technician.

Before You Restore: A system restore will erase all data and restore the StruxureWare Data Center Expert hardware server to its factory default settings. Please make sure you have a copy of all installed license keys and network settings prior to restore.

1. Download the restore.iso file to create a bootable USB key, or contact Technical Support at 877-908-2688 for assistance.
    a. For a USB Key, follow the instructions provided in Creating a bootable USB Key (Windows or Linux machine) on page 5.
2. Place the USB key in the USB port of your StruxureWare Data Center Expert appliance.
3. Reboot StruxureWare Data Center Expert.
4. When the appliance restarts the system restore process begins automatically. This process takes approximately 10 minutes for the 1U StruxureWare Data Center Expert Basic, 15 minutes for 1U StruxureWare Data Center Expert Standard or 25 minutes for 2U StruxureWare Data Center Expert Enterprise. When the restore is complete, you will be prompted to remove the USB key and hit enter to reboot the server.
5. Once StruxureWare Data Center Expert has restarted, you may configure the StruxureWare Data Center Expert network settings per instructions in the StruxureWare Data Center Expert Installation Guide.

Migrating a StruxureWare Data Center Expert hardware server to a virtual appliance

Before You Migrate: To migrate a StruxureWare Data Canter Expert hardware server to a virtual appliance, you must purchase and apply an activation key. Additionally, you must contact APC Support for new node license keys and application license keys for the virtual appliance.

1. Perform a back up of the StruxureWare Data Center Expert hardware server, using the **Server Backup/Restore** option, accessed from the **Server Administration Settings** option in the **System** menu.
2. Deploy the demo version OVA, and configure it using the hardware equivalents for the StruxureWare Data Center Expert Basic, Standard, or Enterprise server from which you are migrating. **The available disk space for the virtual appliance must be greater than the disk space used by the hardware server.** You cannot restore to a virtual appliance with fewer CPU, fewer network adapters, less RAM, or less available disk space than the hardware server. See help for Deploying and configuring a StruxureWare Data Center Expert virtual appliance, and StruxureWare Data Center Expert virtual appliance equivalent configurations.
3. Perform a restore on the virtual appliance, using the **Server Backup/Restore** option, accessed from the **Server Administration Settings** option in the **System** menu. You cannot restore to a virtual machine other than the StruxureWare Data Center Expert virtual appliance.
4. Apply the activation key to the virtual appliance.
5. Login to the StruxureWare Data Center Expert client. In the "License Keys" display, accessed from the **Server Administration Settings** option in the **System** menu, apply the new node license keys and application license keys you received from APC Support.

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Creating a bootable USB Key (Windows or Linux machine)

Instructions for a Windows machine:

1. Insert a 2GB (or larger) USB key into your system.
2. Extract the following file to a temporary directory:
   DCExpertUsbFlashRestore_Win_7.2.1.zip
3. Open a command prompt to the temporary directory and run mkDCExpertRestoreUsbKey.bat <iso image filename>.
   For example: mkDCExpertRestoreUsbKey.bat c:\tmp\restore.iso
4. Answer the prompts as appropriate.

Instructions for a Linux machine:

1. Insert a 2GB (or larger) USB key into your system.
2. Extract the following file to a temporary directory:
   DCExpertUsbFlashRestore_Linux_7.2.1.tar.gz
3. Open a command prompt to the temporary directory and run mkDCExpertRestoreUsbKey.sh <iso image filename>.
   For example: mkDCExpertRestoreUsbKey.sh /tmp/restore.iso
4. Answer the prompts as appropriate.

Third-party USB key scripts:

The USB key scripts used to create USB keys utilize the following software:

Software	URL	Windows	Linux
Syslinux	http://syslinux.zytor.com/	X	X
7-zip	http://www.7-zip.org	X	
GNU sed	http://unxutils.sourceforge.net	X	

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